

CLAIMS

1. A nozzle for coloring an electric wire, which spouts a liquid coloring agent with a specific amount thereof per spouting toward an outer surface of the electric wire so that a liquid drop of the coloring agent adheres to the outer surface of the electric wire, the nozzle comprising:

a receiver for receiving the coloring agent therein;

a first nozzle part formed in a cylindrical shape for allowing the coloring agent to pass therethrough, the first nozzle part communicating with the receiver; and

a second nozzle part formed in a cylindrical shape having an inner diameter smaller than that of the first nozzle part for allowing the coloring agent to pass therethrough, the second nozzle part being connected to the first nozzle part,

wherein the second nozzle part is disposed nearer to the electric wire than the first nozzle part is disposed,

wherein between the first and second nozzle parts there is formed a step protruding from an inner surface of the first nozzle part toward the inside of the first nozzle part.

2. The nozzle for coloring an electric wire according to claim 1, wherein the step is formed flat in a direction crossing at right angles a direction in which the coloring agent flows in the first and second nozzle parts.

3. The nozzle for coloring an electric wire according to claim 1, wherein the step is formed flat in a direction crossing both a direction in which the coloring agent flows in the first and second nozzle parts and a

direction crossing at right angles the direction in which the coloring agent flows.

4. The nozzle for coloring an electric wire according to claim 3, wherein the step is formed on at least one of the first and second nozzle parts.

5. The nozzle for coloring an electric wire as claimed in any one of claims 1 – 4, wherein the first and second nozzle parts are connected coaxially to each other.

6. The nozzle for coloring an electric wire as claimed in any one of claims 1 – 5, satisfying a condition of $8 \leq L/l \leq 10$, wherein L is the sum of a length of the first nozzle part and a length of the second nozzle part in a direction in which the coloring agent flows, and l is the length of the second nozzle part in the direction in which the coloring agent flows.

7. The nozzle for coloring an electric wire as claimed in any one of claims 1 – 5, satisfying a condition of $4 \leq D/d \leq 6$, wherein D is an inner diameter of the first nozzle part, and d is an inner diameter of the second nozzle part.

8. The nozzle for coloring an electric wire as claimed in any one of claims 1 – 5, satisfying a condition of $8 \leq L/l \leq 10$, wherein L is the sum of a length of the first nozzle part and a length of the second nozzle part in a direction in which the coloring agent flows, and l is the length of the second nozzle part in the direction in which the coloring agent flows, and satisfying a condition of $4 \leq D/d \leq 6$, wherein D is an inner diameter of the first nozzle part, and d is an inner diameter of the second nozzle part.

9. The nozzle for coloring an electric wire as claimed in any one of claims 1 – 8, wherein the second nozzle part is made of

polyetheretherketone.

10. A nozzle for coloring an electric wire, which spouts a liquid coloring agent with a specific amount thereof per spouting toward an outer surface of the electric wire so that a liquid drop of the coloring agent adheres to the outer surface of the electric wire, the nozzle comprising:

a receiver for receiving the coloring agent therein;

a first nozzle part formed in a cylindrical shape for allowing the coloring agent to pass therethrough, the first nozzle part communicating with the receiver; and

a second nozzle part formed in a cylindrical shape for allowing the coloring agent to pass therethrough, the second nozzle part being connected to the first nozzle part,

wherein the second nozzle part is disposed nearer to the electric wire than the first nozzle part is disposed,

wherein the second nozzle part is made of polyetheretherketone.